

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the subject application, and please amend the claims as follows:

1. (Currently Amended) A system for performing experiments, in particular for high throughput experimentation, said system comprising:
  - at least one tubular vessel, said vessel having a first vessel opening and a second vessel opening at opposite ends thereof allowing a flow of fluid through said vessel,
  - an assembly for housing said vessel, said assembly comprising:
    - a base block having ~~at least one~~ a first face, a second face, and a first channel formed therein in said base block for removably housing the vessel,
    - said first channel having a wall, a first ~~channel~~ opening, and a second opening, said first opening of said first channel extends through in a said first face of the base block, and said second channel opening, opening in a of the first channel extends through said second face of the base block, said first and second ~~channel~~ openings of the first channel allowing introduction and/or discharge of a fluid into and from said first channel,
    - a cover element having a bottom surface, ~~the cover element with the bottom surface~~ extending over said first face of the base block and over the first opening of the first channel, said bottom surface arranged adjacent and parallel facing the base block being releasably attachable to the first face of the base block;

a first sealing element arranged between the first face of the base block and the bottom surface of the cover element, the first sealing element surrounding the first ~~channel~~ opening of the first channel completely, and thereby sealing gastight around said first ~~channel~~ opening of the first channel between the cover element and the base block;

the wall of the first channel, the first sealing element, the bottom surface of the cover element and the second opening of the first channel together delimiting a cavity, said tubular vessel being entirely accommodated in said cavity in such a way that an annular gap is present between the tubular vessel and the wall of the first channel,

~~in which system the tubular vessel and the first channel are such that an annular gap is present between the outside of the vessel and the wall of the first channel;~~

~~and in which system a second sealing element is located in the first channel, said second sealing element sealing gastight against the vessel and the wall of the first channel, and the outside of the vessel thereby sealing said annular gap; and~~

~~in which system a fourth channel is provided in the base block, which said fourth channel opens into the annular gap between the second sealing element and the second ~~vessel~~channel opening, and~~

a feed channel for feeding fluid into the cavity, which feed channel is in fluid communication with the cavity, the feed channel being fluid communication with the second opening of the first channel via the tubular vessel.

2. (Original) A system according to claim 1, wherein said gap is between 0.01 and 1 millimetres.
3. (Original) A system according to claim 1, wherein the second sealing element is located in the vicinity of the first face of the base block.
4. (Currently Amended) A system according to claim 1, wherein the base block comprises a second channel connecting to the first channel between the second sealing element and the first ~~channel~~ opening.
5. (Original) A system according to claim 1, wherein the cover element comprises a third channel in fluid communication with the at least one first channel in the base block.
6. (Original) A system according to claim 1, wherein the vessel contains a reaction zone.
7. (Original) A system according to claim 1, wherein heat exchange means are provided for controlling the temperature of a part of the vessel.

8. (Original) A system according to claim 1, wherein said base block has multiple first channels each housing a tubular vessel.
9. (Currently Amended) A system according to claim 1, wherein said base block has multiple first channels each housing a tubular vessel, and wherein a single cover element covers the first face of the base block and thereby the first ~~channel~~ openings of all first channels.
10. (Original) A system according to claim 1, wherein the system comprises a means for feeding a fluid via said fourth channel into the gap.
11. (Currently Amended) A system according to claim 1, wherein the first face of the base block is opposite from the second face, and wherein the second ~~channel~~ opening is formed by an extension channel, extending in line with said first channel and opening into said second face.
12. (Currently Amended) A system according to claim 1, wherein the cover element comprises a third channel, in fluid communication with the at least one first channel in the base block, and wherein a first fluid conduit extends through said third channel and is in communication with said first ~~channel~~ opening.

13. (Currently Amended) A system according to claim 1, wherein the first face of the base block is opposite from the second face, and wherein the second ~~channel~~ opening is formed by an extension channel, extending in line with said first channel and opening into said second face, and wherein a second fluid conduit extends through said extension channel and is in communication with said second ~~channel~~ opening.

14. (Withdrawn) A method for performing experiments wherein use is made of a system for performing experiments, in particular for high throughput experimentation, said system comprising:

- at least one tubular vessel having a first vessel opening and a second vessel opening at opposite ends thereof allowing a flow of fluid through said vessel,

- an assembly for housing said vessel, said assembly comprising:

- a base block having at least one first channel formed therein for removably housing the vessel, said first channel having a wall, a first channel opening, opening in a first face of the base block, and a second channel opening, opening in a second face of the base block, said first and second channel openings allowing introduction and/or discharge of a fluid into and from said first channel,

- a cover element having a bottom surface, the cover element with the bottom surface facing the base block being releasably attachable to the first face of the base block;

- a first sealing element between the first face of the base block and the bottom surface of the cover element, the first sealing element surrounding the first channel opening completely, and thereby sealing gastight around said first channel opening between the cover element and the base block;

in which system the tubular vessel and the first channel are such that an annular gap is present between the outside of the vessel and the wall of the first channel;

and in which system a second sealing element is located in the first channel, said second sealing element sealing gastight against the wall of the first channel and the outside of the vessel thereby sealing said annular gap;

and in which system a fourth channel is provided in the base block, which fourth channel opens into the gap between the second sealing element and the second channel opening.

15. (Withdrawn)      A method according to claim 14, wherein a purging fluid is fed through said fourth channel before an experimentation fluid is allowed to flow through said vessel.

16. (Withdrawn)      A method according to claim 14, wherein an experimentation fluid is introduced into the vessel via the first opening thereof and a reaction product is discharged from said second opening of the vessel and wherein a diluting fluid for diluting the reaction product is fed through said fourth channel.

17. (New) A system for performing experiments, in particular for high throughput experimentation, said system comprising:

at least one tubular vessel, said vessel having a first vessel opening and a second vessel opening at opposite ends thereof allowing a flow of fluid through said vessel; and

an assembly for housing said vessel, said assembly comprising:

a base block having a first face, a second face, and a first channel formed in said base block,

said first channel having a wall, a first opening, and a second opening, said first opening of said first channel extends through said first face of the base block, and said second opening of the first channel extends through said second face of the base block, said first and second openings of the first channel allowing introduction and/or discharge of a fluid into and from said first channel,

a cover element having a bottom surface, the bottom surface extending over said first face of the base block and over the first opening of the first channel, said bottom surface arranged adjacent and parallel to the first face of the base block;

a first sealing element is located in the first channel, said first sealing element sealing gastight against the vessel and the wall of the first channel, thereby sealing said annular gap; and the wall of the first channel, the first sealing element, the bottom surface of the cover element and the second opening of the first channel together delimiting a cavity, said tubular vessel being

entirely accommodated in said cavity in such a way that an annular gap is present between the tubular vessel and the wall of the first channel;

a fourth channel is provided in the base block, said fourth channel opens into the annular gap between the first sealing element and the second vessel opening; and

a feed channel for feeding fluid into the cavity, which feed channel is in fluid communication with the cavity, the feed channel being fluid communication with the second opening of the first channel via the tubular vessel.